

latter case, partly from the absence of any definite standard of measurement. Prof. Pearson, with characteristic ingenuity, has found means of overcoming both kinds of difficulty, and has succeeded in showing that for the inheritance of all observed traits, whether belonging to the "mental" or "bodily" category, the slope of the "regression" line closely approximates to the same value, viz. 0.5. Considering the extent to which the personal element must needs enter into any estimate, however careful, of comparative ability or character, the uniformity shown by the author's tables is far greater than might have been expected. Some, indeed, may incline to the opinion that he proves too much, for if the influence of heredity is supreme alike in the mental and moral, and in the physical domain, what room is left for the action of teaching, training, discipline, and the environment generally, influences which the common experience of mankind has held to be of importance? Prof. Pearson partly meets the difficulty by reminding us that "the average home environment, the average parental influence is in itself part of the heritage of the stock." This is true enough, but scarcely covers the whole ground, because a great deal of the average environment is not parental.

Still, however firmly we may be convinced of the power of education to foster desirable qualities of whatever kind, there can be little doubt of the significance of the author's figures with regard to the material on which education and experience have to work. From these considerations there emerges a practical conclusion of the highest importance. "Intelligence," says Prof. Pearson, "can be aided and be trained, but no training or education can *create* it." "The mentally better stock in the nation is not reproducing itself at the same rate as it did of old; the less able, and the less energetic, are more fertile than the better stocks. No scheme of wider or more thorough education will bring up in the scale of intelligence hereditary weakness to the level of hereditary strength. The only remedy, if one be possible at all, is to alter the relative fertility of the good and the bad stocks in the community."

F. A. D.

ANTHROPOLOGICAL NOTES.

WE have frequently directed attention to the splendid work done by Mr. Clarence B. Moore in his archaeological investigations in Florida. In the second series of the *Journal of the Academy of Natural Sciences of Philadelphia*, part iii. of vol. xii. is devoted to a memoir on certain aboriginal mounds of the Florida central west coast, and, like Mr. Moore's previous publications, it is sumptuously illustrated. Perhaps the most interesting find is a fish-spear of native copper; this is a unique record for Florida. There is little doubt that the ancient coppersmith had arrived at the knowledge that hammering the metal gave it stiffness. Numerous copper ornaments were found, such as pendants and ear-plugs, some of the latter being decorated with symbolic designs. None of the skulls from this district exhibited cranial flattening, though it was extensively practised on the north-west coast of Florida. In the latter district were found ceremonial vessels in which large holes had been made before the firing of the clay, but they do not occur along the central west coast. The mounds on the Apalachicola River yield forms of burial similar to those prevailing along the north-west coast of Florida. Ceremonial vessels, "killed" by a basal perforation and by holes throughout the body, made before the firing of the clay, were found in considerable numbers; the ware is most inferior in quality, as might be expected of vessels purposely made for interment with the dead.

There was a spirited discussion in the *American Anthropologist* during 1903 concerning the origin of the sheet copper found in the Florida mounds. Mr. J. D. McGuire contended that it owed its origin to European influences, but the whole weight of evidence and experience was against him.

There is immense variety in the basketry of the native tribes of America as regards form, technique, decoration and the materials employed, and our colleagues of the United States fully realise the importance of studying the designs with which so many baskets are ornamented while there is yet an opportunity of discovering their significance.

NO. 1806, VOL. 70]

We have several times referred to this subject; the latest publication of this kind is an admirably and copiously illustrated memoir, by G. T. Emmons, on the basketry of the Tlinget, in the *Memoirs* of the American Museum of Natural History (vol. iii. part ii.). The accuracy with which designs have been preserved and transmitted through so many generations is evidence of the conservatism of primitive peoples; most of the patterns of the past may be seen in the work of to-day, but the modern tendency to produce new figures is born of the rivalry in trade. The old characters are being combined to form attractive though meaningless figures, and so symbolism in design will gradually be lost. In existing circumstances the future of basketry is not difficult to foresee; the younger generation learns to read and write, but seldom learns to weave, and so the time is not far distant when Alaska must follow in the footsteps of all the basket producing countries. It is fortunate that, in the meantime, we have such an admirable piece of work as Mr. Emmons has produced, as he has saved from oblivion the meaning of many patterns and designs.

The following ingenious method of ethnological investigation adopted by Mr. E. Thurston, superintendent of the Government Museum, Madras, is worth rescuing from the oblivion of the report for the year 1902-1903. "In the inquiries concerning manners and customs, a novel and eminently effective method of arriving at the truth concerning tribal ceremonials was resorted to, marriage and death ceremonies being acted in the form of theatricals in which each performer at the real ceremony was represented by a member of the class concerned. In this way the interest was thoroughly sustained, and the fatigue, which soon supervenes among illiterate people when they are interviewed, was avoided. Moreover, apparently trivial but really important points of detail were clearly brought out in a manner which is impossible by mere oral examination. I have myself had to play the part of maternal uncle, and, as representing the *swami*, to receive the obeisance of the mock bride. The leading rôle of corpse at a funeral was played either by an elderly man or by a clay votive figure purchased from a local potter. The pupils of the eyes of these figures are not painted in till they are taken to the temple, where *puja* is done to them, as it is the painting of the eyes which endows them with life."

In the report on the administration of the Government Museum of Madras for the year 1902-1903, Mr. E. Thurston writes:—"Two tours were made in the course of the year. During the first of these the physical measurements of the jungle Uralis and Sholagas of the Coimbatore district were examined by myself, and their visual acuity, colour vision, &c., by Dr. W. H. R. Rivers, of Cambridge. It took many months before confidence was restored among these primitive folk, who, as a report records, 'could not understand why the measurements of the different organs of their bodies were taken; perhaps to reduce or increase the size of their bodies, to suit the different works which they were expected to do near London.' They believed, too, that the variously coloured wools, given to them for selection, were for tying them captive with. . . . A prolonged halt was subsequently made at Coimbatore, where the Kaikolans, Oddes, Okkililiyans, &c., were investigated. The Oddes, unfortunately, all have the title Boyan added to their names, and a fatal rumour was spread among them that the object of my visit was to transport the strongest among them to South Africa, to replace the Boers who had been killed in the war. My evil eye was cast on them, and they refused to fire a new kiln of bricks for house construction till my departure from their midst."

In appropriate yellow guise is published a new illustrated quarterly review called *Buddhism*, by the International Buddhist Society, at the Hanthawaddy Printing Works, Rangoon. The first article of the second number gives an account of the election and installation of the Taunggwin Sayadaw as Thathanabaing of Upper Burma. This functionary is the patriarch or ecclesiastic head, who is supreme in all matters connected with religion, and next to the king is the person most held in esteem. It is eight years since the last Thathanabaing died, and the people were as sheep without a shepherd, and feared that the Government would never exert its royal prerogative and elect a successor; but to their intense relief and satisfaction this was done in November, 1903. The review contains a

interesting paper on the Pali and Sanskrit texts by Prof. T. W. Rhys Davids. Judging from the other articles, this new journal should perform a useful service in clearly pointing out the true nature of Buddhism. In common with other religions, Buddhism has many extraneous local beliefs and practises grafted upon it from which it requires to be pruned. The foreigner too often does not distinguish between these two elements, and from this point of view alone the review will perform a useful task.

The brilliant work done by Prof. G. Elliot Smith on the mammalian brain is acknowledged by all anatomists, and they will eagerly look forward to the memoir (which is based on the examination of more than 400 human brains, and of an almost equally large series of simian cerebral hemispheres) that is shortly to be published as vol. ii. of the "Records of the Egyptian Government School of Medicine." A summary of the main conclusions is published in the *Anatomischen Anzeiger*, Band xxiv. p. 436. The most striking result of this investigation is the demonstration of the fact that the sulci called "calcarine" in most human and all simian brains respectively are not strictly homologous. The so-called "calcarine fissure" of the apes is a complete involution of the whole mesial part of the area striata, fossa striata occipitalis, whereas the similarly named furrow in the human brain consists in most cases of anterior and posterior parts which are genetically distinct, the anterior part being the anterior limiting sulcus of the mesial area striata, sulcus praestriatus, and the posterior part a mere depression in (not a complete infolding of) the mesial area striata, sulcus intrastriatus.

Those interested in human craniology are aware that Prof. Sergi, of Rome, has inveighed against the cephalic index, and has introduced a new nomenclature for describing skulls by inspection. Several English anthropologists recognise that the cephalic index has its uses and abuses, but there is an indefiniteness about Prof. Sergi's nomenclature, which besides is somewhat complicated, that prevents them from adopting the latter to the exclusion of the former method. As a matter of fact, they employ both systems, but only make use of the simpler terms introduced by the Italian anatomist. Dr. F. Frassetto has now applied Prof. Sergi's method to the anthropoid apes, and the following are his main conclusions. The skull of the adult chimpanzee is byrsoides rotundus, the less fully grown skull is byrsoides cuneatus; there is progressive reduction in the cephalic index, 88 to 70. The skull of the adult gorilla is byrsoides asciformis, while that of the young is ellipsoïdes cuneatus; there is a similar reduction in the cephalic index during growth, and the average breadth is less. On the whole the skull of the orang-utan is sphæroides and platycephalus; the cephalic index varies from 91 to 75. Thus the Asiatic anthropoid tends to preserve the primitive brachycephaly, while the African forms, especially the gorilla, become dolichocephalic. The author directs attention to the essential brachycephaly of Asiatic man and the dolichocephaly of African man. Pithecanthropus, however, which he describes as byrsoides asciformis, "is a fossil form of African anthropoid found in Asia." This short but suggestive paper will be found in the tenth anniversary volume of the *Atti della Società Romana di Anthropolologia* (Rome, 1904.)

A. C. H.

INTERNATIONAL OCEANOGRAPHY.¹

THIS first instalment of the observations of the international scheme of deep-sea investigation proves conclusively the unique value of the undertaking, launched amid many difficulties, both for the advancement of the purely scientific interests of marine zoology and meteorology, and for their practical applications to matters of fisheries and weather forecasting. It contains the numerical results of the observations made during August, 1903, by ships sent out specially by no less than ten countries—Belgium, Germany, Denmark, England, Finland, Holland, Norway, Russia, Sweden, and Scotland. The classification is that of the council, and we may ignore any question as to the international relations of Sweden and Norway, Finland and

¹ "Conseil permanent international pour l'Exploration de la Mer." *Bulletin des Résultats acquis pendant les Courses périodiques*, No. 1, Août, 1903.

NO. 1806, VOL. 70]

Russia, or England and Scotland, and congratulate ourselves on the fact that so many nationalities have been found to agree to meet on neutral territory and to engage in a uniform scheme of scientific research, as of happy omen.

The *Bulletin* is divided into four sections, A, B, C and D. Section A consists of a table of observations of the condition of the atmosphere as to its temperature and movement, and of the condition of the surface water as to its temperature and salinity. The distributions disclosed by the data are shown graphically on two maps, one on a scale of 1 : 18,000,000, which includes the whole area, the Baltic, the North Sea, the North Atlantic and the Arctic, and another, on a scale of 1 : 6,000,000, giving the North Sea, the English Channel, and the Baltic entrance, in more detail. The maps contain much that is of supreme interest, but it is greatly to be regretted that advantage has not been taken of the skill and enthusiasm of the commanders and officers of ships crossing the Atlantic in lower latitudes to extend the maps into the region in which the explanation of facts they show is to be looked for.

In Section B we find the observations of temperature and salinity at various depths. The salinities are determined by chlorine titration of water samples collected, and from these and the observed temperatures the specific gravities *in situ* have been computed. These tables profess a high degree of accuracy—temperatures to hundredths of a degree, salinities to two places of decimals, and specific gravities, in some cases, to six places—but it seems hardly necessary to inquire whether all the figures given are significant or not, or, if they are, whether it is worth while to trouble about the necessary refinements when observations taken from ships, the positions of which are scarcely known to within a mile or two, on any day during a month, are lumped together as if they were absolutely simultaneous. For in the end we obtain a series of sections which is absolutely invaluable. Discussion of these sections is impossible in the space available here, and in any case it will be better delayed until further bulletins provide material for comparison. We may, however, instance as of special interest the sections across the Færöe-Shetland Channel furnished by the Scottish Fishery Board, and the parallel section from Bergen to Iceland of the Danish and Norwegian observations. We are now in possession of a number of sections in this region for different years, and the constant change in the relation of the northward and southward moving streams is a phenomenon of ever-increasing interest.

Section C contains the results of gas analyses of a number of the samples collected by the German, Dutch, and Danish vessels. It is to be hoped that the other nationalities will join in this very important part of the work. The last section is devoted to tables showing the distribution of plankton.

It is worth noting that four of these bulletins will constitute one volume, for which the subscription is one pound.

H. N. D.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—Mr. Beck, master of Trinity Hall, has been elected Vice-Chancellor for the ensuing academical year.

Prof. Howard Marsh has been approved for the degree of Master of Surgery.

The Vice-Chancellor has published to the Senate a resolution unanimously passed by the Association of Chambers of Commerce of the United Kingdom supporting the recent communication from the council of the Royal Society, and urging that steps be taken to "ensure that a knowledge of science is recognised in schools and elsewhere as an essential part of general education."

The special syndicate appointed for the purpose report in favour of the university granting a diploma in mining engineering to members of the university who have completed six terms' residence, and have pursued an approved course of theoretical and practical study in the subject.

Prof. Ewing's Rede lecture, on the structure of metals, will be delivered in the anatomy and physiology lecture room on June 11 at 11.30 a.m.